

DAILY FIELD ACTIVITY REPORT

PROJECT NAME: Pre-Remedial Design Investigation and Baseline Sampling, Portland Harbor Superfund Site

DATE: March 16, 2018	WEATHER: Cloudy with light breeze, high ~50 degrees F
Personnel and Visitors Onsite: <u>CDM Smith</u> : Julee Trump; <u>Geosyntec</u> : Luke Smith; <u>DEA</u> : Jason Dorfman, and David Moehl	
Planned Activity: <ul style="list-style-type: none">Continue bathymetric survey with the primary survey vessel (Broughton) in the deeper channel water.David Evans and Associates (DEA) plans to return with smaller vessels later to complete the survey in the shallow reaches as required to reach bathymetric coverage extents required in the field sampling plan (FSP).	
Activity Completed: <ul style="list-style-type: none">Tailgate health and safety meetingJulee Trump performed oversight of DEA's bathymetric surveying of the Willamette River from 8 am to 6 pm. The deeper channel bathymetry was surveyed from approximately river mile (RM) 4.7 to approximately RM 7.7. Quality control (QC) on the survey equipment was performed during the day in accordance to the FSP as follows:<ul style="list-style-type: none">Performed a patch test before starting surveySound speed/velocity profiles were performed approximately every 1-2 hours or when moving to a different area of the site by dropping the acoustical probe through the water column and pulling it back up. No equipment contacted the river bottom sediment.Performed a bar check comparison at the beginning of each day: A flat disk (bar) with measuring tape is lowered below each sonar, and its depth is recorded. This reading is compared to the manually measured depth of the disk in conjunction with the static draft (measured from scale on the side of the boat fully loaded)DEA communicated that additional QC on the equipment was performed prior to the start of EPA's oversight on March 14th, including:<ul style="list-style-type: none">Vessel Baseline Survey: A total station was used to survey equipment's relative position at inscribed survey points before the vessels were mobilized to the site.Initial System Calibration (patch test) was performed around March 1st offsite by running the boat over a flat area with an adjoining slope multiple time in parallel and transverse orientations.Independent verification of sonar data (conducted March 13th): lead line was dropped to bottom and used to measure depth and compare to sonar depth reading at same location.Sound speed/velocity Profile (conducted March 13th): readings from two sound probes and sonar were compared to check equipment.Crossline Comparison (after start of survey): survey latitudinally (typical survey path is longitudinal) and compare with main survey coordinates (longitudinal paths). Two to three crossline comparisons are planned.Validation of base station position and height relative to project datums (completed prior to March 8th): procedure and results submitted to EPA by AECOM (see attachment).	
Status of Schedule & Priority Work: <ul style="list-style-type: none">DEA with Geosyntec oversight will work through the weekend operating the primary survey vessel similar to survey operations on March 14th and 16th and will provide an update to CDM Smith Saturday evening on any plans to begin new survey methods or operations (such as operating different survey vessels).CDM Smith plans to return to oversight on Monday, March 19th.	
Issues/Concerns/Resolutions (include work performed that was not planned or anticipated): <p>DEA is taking additional precautions to prevent piling encounters by tracking potential subsurface hazards detected by surveying activities, and only driving the boat over areas that were just surveyed (note that the sonar path is wider than the boat footprint). This method is only applicable in area of known or potential pilings, other large debris or shallow bathymetry. It is DEAs preference to use the smaller survey boat to survey closer the pilings because it has better spotting vantage points, front mounted sensors to warn of a shallow, submerged feature, a similar hull integrity, less mass and impact momentum, and a similar hull integrity.</p> <p>The smaller survey boat only has capacity for 3 crew and there is no space for an EPA inspector.</p>	

Samples Collected, Measurements Made, Photographs: (List Locations, Matrix & Sample type):

Bathymetry data was collected from about RM 4.7 to about RM 7.7 In the Willamette River channel. Photographs of representative field activities were transmitted via email to EPA on March 16th, and additional photos are available.

Borings Completed (Include total footage drilled for each boring): N/A

Wastes Generated and How Handled: N/A

Miscellaneous (Equipment needs, health and safety issues, Staffing):

DEA is planning to continue the bathymetric survey through the weekend.

Signature: Julee Trump

DATE March 16, 2018

Pretare, Jennifer

From: Pretare, Jennifer
Sent: Friday, March 09, 2018 2:27 PM
To: Pretare, Jennifer
Subject: FW: Portland Harbor Control Evaluation

From: Jon Dasler [<mailto:Jld@deainc.com>]
Sent: Thursday, March 8, 2018 1:46 PM
To: Luke Smith <Luke.Smith@Geosyntec.com>
Subject: Portland Harbor Control Evaluation

Luke,

We have completed a preliminary analysis of our control survey on monuments *RAINDEER* and *2100*. Station *2100* was inadvertently referenced in our work plan as *DEA ROOF*. Station *DEA ROOF* was established during the original survey in February, 2002 at DEA's old office building at 2828 SW Corbett Avenue. Station *2100* was established during the summer of 2002 after our office moved to 2100 SW River Parkway and replaced *DEA ROOF*. The original control was established using NAD83/91 and Geoid99 to obtain NAD83 orthometric heights. To establish a relationship between old control and current datums from our base station *DEMSI*, our control survey consisted of simultaneous 4 hours GNSS observations on *RAINDEER*, *2100* and *DEMSI*. We held NAD83(2011) latitude longitude and ellipsoid height on *DEMSI* and checked how we matched coordinates established on the old control. The results are as follows:

Station	Delta North	Delta East	Delta Elevation
<i>RAINDEER</i>	0.90 ft	0.35 ft	-0.09 ft
<i>2100</i>	0.46 ft	0.23 ft	-0.13 ft
Average	0.68 ft	0.29 ft	-0.11 ft

Based on these results we suggest the 2018 mapping effort be based on NAD83(2011) and use Geoid12b to obtain NAVD88 orthometric heights. This would reduce confusion with integration of more current data (base maps, lidar, etc.) and is in the noise level of the difference analysis, although old data sets could be adjusted forward. The decision to hold NAD83/91 Geoid99 or NAD83(2011) Geoid12b should be made prior to field data acquisition. If we held the superseded datum of NAD83/91 and Geoid99, we would shift our base station position based on the average of the differences. That said, we would suggest standing down on acquisition until Monday, March 19, until a final decision can be made on datums. Please let me know if you have any questions.

Regards,

Jon

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CHANGE REQUEST FORM
Portland Harbor PDI Studies, 2018

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Change No: 1

CHANGE REQUEST

Bathymetry Survey Datum

Applicable Reference:

Bathymetry Survey Field Sampling Plan, Dated February 20, 2018

Description of Change:

The Bathymetry FSP states that the horizontal datum used for the survey will be NAD 1983/91, State Plane Coordinate System - Oregon North (page 8). We are proposing instead to use horizontal datum NAD83/2011 and Vertical Datum NAVD88.

Reason for Change:

This is a more "modern" datum. Future design and engineering for the Site would likely be in this datum. Geodetic control points used for reference are also in NAD83/2011. See attached recommendation from Jon Dasler, DEA (Bathymetry Survey lead) for documentation of control work done this week.

Impact on Present and Completed Work:

Bathymetry survey data collected in NAD83/2011 will then be converted to NAD1983/91 if that is the EPA preference for the data deliverable.

Requested By: _____
(AECOM Project Coordinator)

Date: _____

Acknowledged By: _____
(EPA Project Manager)

Date: _____

APPROVAL

Senior Technical Advisor _____

Date: _____

Client Project Manager: _____

Date: _____

EPA Project Manager: _____

Date: _____